

Impacts of CBAM on Exports to the EU

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The EU began implementing the Carbon Border Adjustment Mechanism (CBAM) for steel and steel products, among others, in January 2026. Prior to this, in December 2025, the European Commission published implementing regulations on the methodology for calculating embedded emissions, as well as country- and product-specific default emission intensity values, making it possible to estimate CBAM costs. Based on these documents, this paper estimates CBAM costs.

1. Formula for Calculating CBAM Costs

When country- and product-specific default values are used to calculate embedded emissions, the CBAM cost per tonne of product is given by:

CBAM cost per tonne of product
= (Default value × (1 + markup rate) – CBAM benchmark × cross-sectoral correction factor for the year × CBAM factor for the year – deductions based on carbon prices paid in third countries) × EU ETS allowance price

The default value is the average emission intensity by country and product, while the CBAM benchmark corresponds to the emission intensity of the top 10% performers in the EU. At the time of CBAM introduction in 2026, the markup rate is 10% and the CBAM factor is 97.5%. The cross-sectoral correction factor has not yet been published; however, in the estimations below, it is assumed to be 90% in 2026, taking into account the pace of reduction in the EU ETS cap. By contrast, when the CBAM phase-in is completed in 2034, the markup rate will be 30% and the CBAM factor will be 0%. In all calculations, the EU ETS allowance price is set at €70/tCO₂, based on the level at the end of February 2026. In addition, deductions for carbon prices paid in third countries are not considered, reflecting the likelihood that allowance auctions for manufacturing industries will not be easily introduced in countries outside the EU.

2. CBAM Costs for Flat-Rolled Steel Products

Figure 1 shows the import unit price (price per ton of product) of flat-rolled steel products (width of 600 mm or more, CN code 7210) for Japan, South Korea, China, India, and the United States, calculated based on the European Commission's trade statistics, with the CBAM cost per ton of product added using the default value and the CBAM benchmark. Parameters such as the markup rate and CBAM factor are set at their 2026 values.

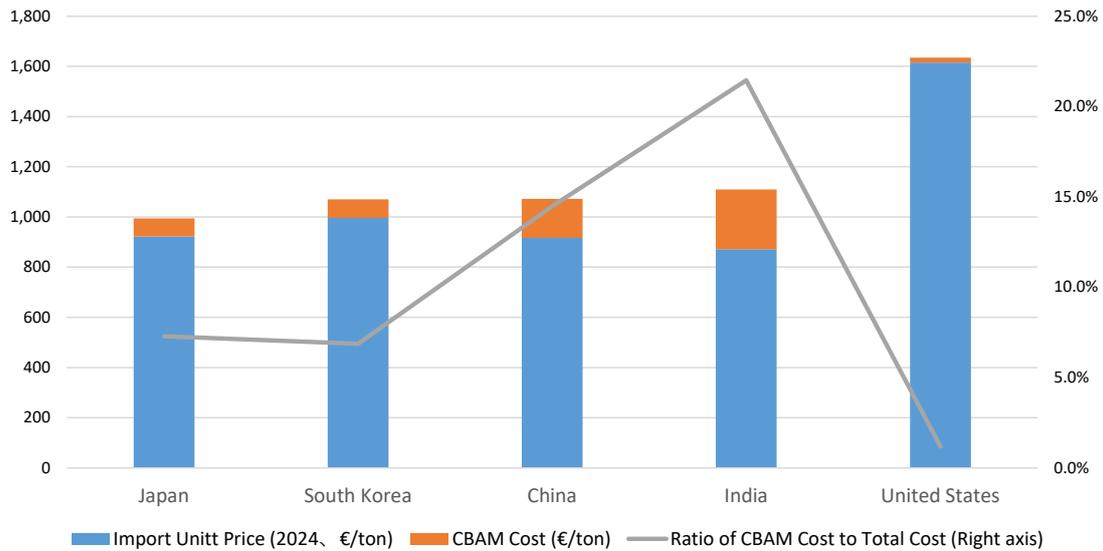


Figure 1: EU import unit prices and CBAM costs for flat-rolled steel products (CN code 7210)(Assumed for 2026; vertical axis: €/tonne)

Source: Compiled by the author based on European Commission trade statistics and CBAM implementing regulations.

The results show that the addition of CBAM costs enhances the competitive advantage of Japanese products. The relatively small CBAM cost for the United States reflects the fact that U.S. steel production is centered on electric arc furnaces and that CBAM does not impose costs on indirect emissions from steel production. As shown in Figure 2, the default value for U.S. flat-rolled steel products is lower than that of other countries.

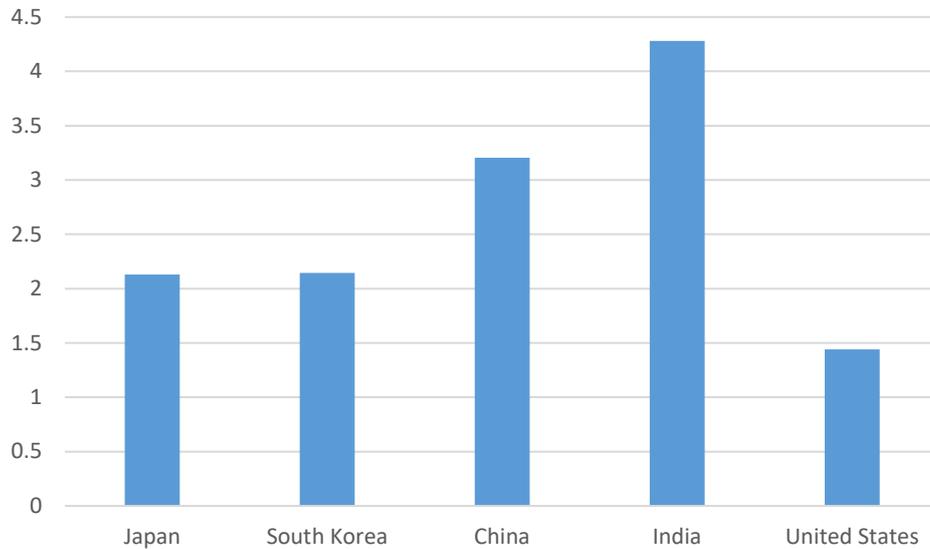


Figure 2: Default values for flat-rolled steel products (CN code 7210) (vertical axis: tCO₂/ton)

Source: Prepared by the author based on the CBAM Implementing Regulation

Figure 3 presents the same analysis using parameter values for 2034. The tendencies observed in Figure 1 become even more pronounced.

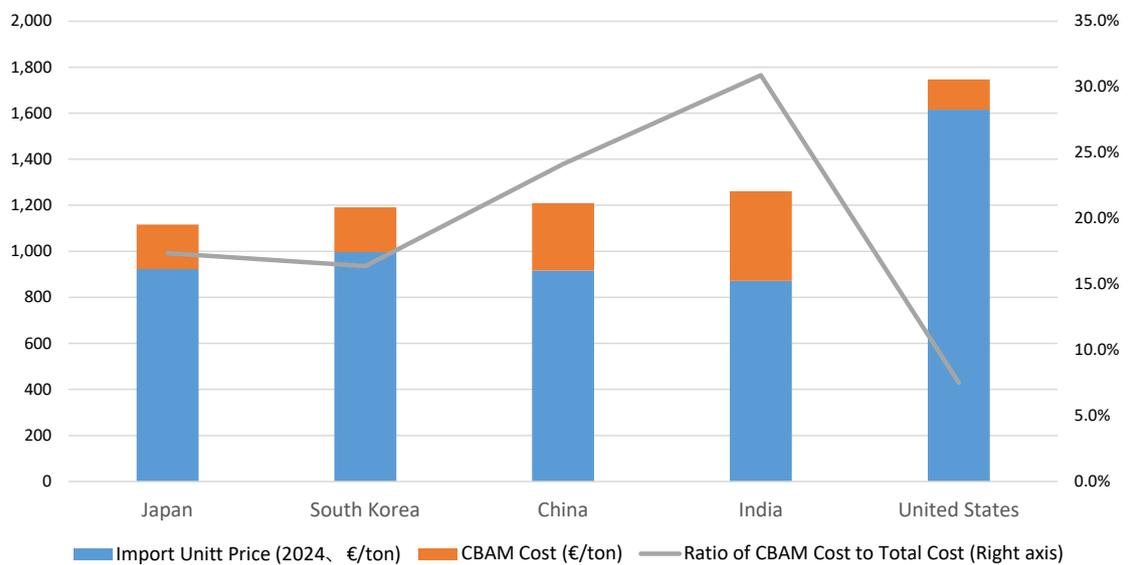


Figure 3: EU import unit prices and CBAM costs for flat-rolled steel products (CN code 7210)

(Assumed for 2034; vertical axis: €/tonne)

Source: Compiled by the author based on European Commission trade statistics and CBAM implementing regulations.

3. CBAM Costs for Downstream Steel Products

CBAM is applied not only to steel materials but also to imports of steel products such as screws and bolts (including high-grade products used in automobiles). In addition, the European Commission has proposed extending CBAM coverage to complex metal products such as automotive parts. Accordingly, this section calculates how the share of CBAM costs changes between upstream and downstream products, using Japan as a case study.

Figure 4 shows the import unit price (price per ton of product) for Japan regarding flat-rolled steel products (width of 600 mm or more, CN code 7210), iron or steel screws and bolts (CN code 73181595), and automotive gear boxes (CN code 870840), calculated based on the European Commission's trade statistics, with the CBAM cost per ton of product for the year 2034 added using the default value and CBAM benchmark. For gear boxes, it is assumed that the entire weight consists of steel, and the default value and CBAM benchmark are assumed to be the same as those for flat-rolled steel products.

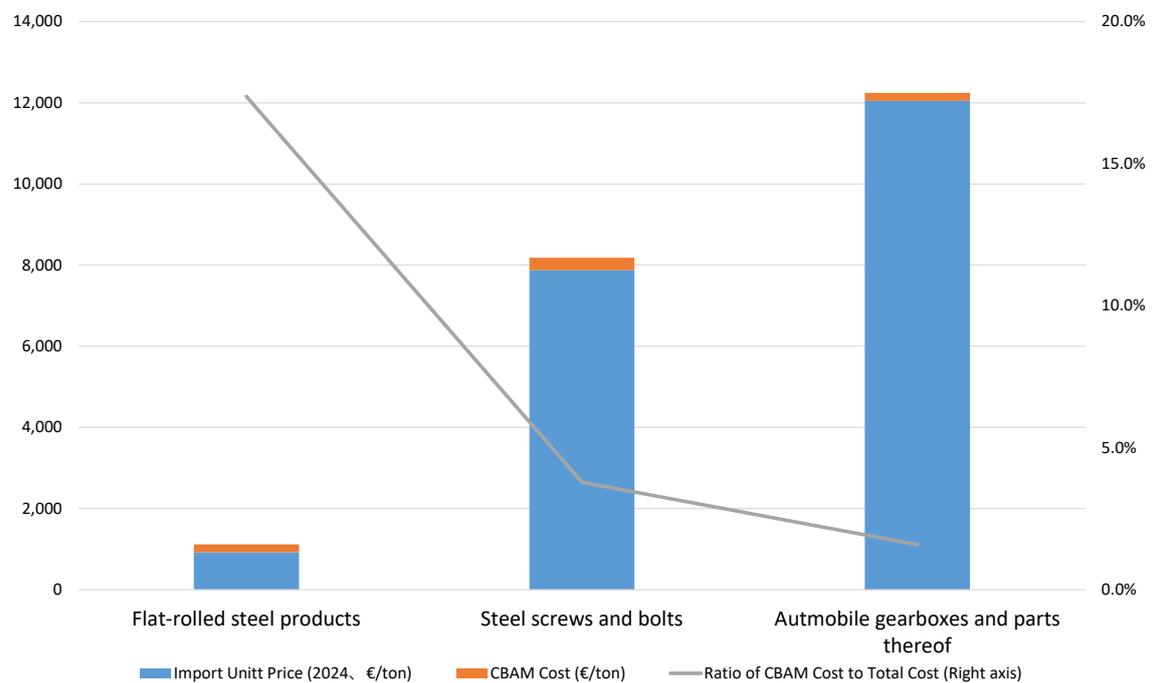


Figure 4: EU import unit prices and CBAM costs for flat-rolled steel products, steel screws and bolts, and automotive transmissions from Japan

(Assumed for 2034; vertical axis: €/tonne)

Source: Compiled by the author based on European Commission trade statistics and CBAM implementing regulations.

As can be seen from this figure, the further downstream the supply chain goes, the higher the price per weight becomes, resulting in a lower proportion of CBAM costs. In other words, the impact of CBAM costs tends to be stronger for upstream products.

4. Conclusion

CBAM affects competitive advantages in the EU market. The impact is particularly significant for upstream materials, and the presence or absence of CBAM can lead to reversals in prices among exporting countries.

Although this analysis does not compare imported products with EU domestic production, CBAM is premised on non-discrimination between domestic and foreign products. Since carbon costs are also imposed on products produced within the EU, these costs will eventually be passed on to product prices within the EU. This implies that CBAM costs are not borne unilaterally by exporters, but rather constitute a substantial burden on the EU economy itself. At the same time, because carbon costs arise for both domestic and imported products, CBAM provides incentives for emissions reductions on both sides.

References

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